AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (Previously Presented) A method for editing an original video sequence to produce a modified original video sequence, the method comprising the steps of:

decomposing said original video sequence to obtain a decomposed original video sequence, the decomposed original video sequence including:

an original camera-motion layer, said camera-motion layer being a layer comprised of a composite representation of background data from a plurality of frames in the original video sequence, and

zero or more original fixed-frame layers, each fixed-frame layer being a layer comprised of independent representations of foreground data from a plurality of frames in the original video sequence;

editing said original camera-motion layer to obtain a modified camera-motion layer; and

recomposing said modified original camera-motion layer and said original fixed-frame layers to produce a modified original video sequence, such that a plurality of frames of the original video sequence have been modified by the editing of the original camera motion layer, without editing any frames of the original video sequence.

2. (Previously Presented) A method as in claim 1, wherein said step of editing said original camera-motion layer comprises the steps of:

converting said original camera-motion layer to an original image;

editing said original image to obtain a modified image; and

converting said modified image to said modified camera-motion layer.

3. (Previously Presented) A method as in claim 2, wherein said step of editing said original camera-motion layer further comprises the steps of:

rectifying said original image prior to editing said original image; and

rectifying said modified image prior to converting said modified image.

4. (Previously Presented) A method as in claim 1, wherein said step of editing said original camera-motion layer comprises the step of:

inserting a portion into, deleting a portion from, or changing a portion of one of said original camera-motion layer to obtain one of said modified camera-motion layer.

5. (Previously Presented) A method as in claim 1, wherein said step of editing said original camera-motion layer comprises the step of:

replacing said original camera-motion layer with another camera-motion layer to obtain said modified camera-motion layer.

6. (Previously Presented) A method as in claim 1, wherein said step of editing said original camera-motion layer comprises the step of:

adding a video sequence to said original camera-motion layer to obtain said modified camera-motion layer.

3

7. (Previously Presented) A method as in claim 1, wherein said step of editing said original camera-motion layer comprises the step of:

adding an animation sequence to said original camera-motion layer to obtain said modified camera-motion layer.

8. (Previously Presented) A method as in claim 1, wherein said step of editing said original camera-motion layer comprises the step of:

adding a three-dimensional object to said original camera-motion layers to obtain said modified camera-motion layer.

9. (Previously Presented) A method as in claim 1, wherein said step of editing said original camera-motion layer comprises the step of:

adding a user-activated region to said original camera-motion layer to obtain said modified camera-motion layer.

10. (Previously Presented) A method as in claim 1, wherein said step of editing said original camera-motion layer comprises the step of:

modifying an on/off time of said original camera-motion layer to obtain said modified camera-motion layer.

11. (Previously Presented) A method as in claim 1, wherein said step of editing said original

camera-motion layer comprises the step of:

modifying an opaqueness of said original camera-motion layer to obtain said modified

camera-motion layer.

12. (Previously Presented) A method as in claim 1, wherein said step of editing said original

camera-motion layer comprises the step of:

modifying fade-in/fade-out of said original camera-motion layer to obtain said modified

camera-motion layer.

13. (Previously Presented) A method as in claim 1, wherein said step of editing said original

camera-motion layer comprises the step of:

modifying an ordering of said original camera-motion layer with respect to other layers of

said decomposed original video sequence to obtain said modified camera-motion layer.

14. (Previously Presented) A method as in claim 1, wherein said step of editing said original

camera-motion layer comprises the step of:

deleting one of said original camera-motion layer of said decomposed original video

sequence.

15. (Previously Presented) A method as in claim 1, wherein said step of editing said original

camera-motion layer comprises the step of:

adding another camera-motion layer to said decomposed original video sequence, such that

an ordering of said original camera-motion layer with respect to other layers of said decomposed

original video sequence is modified to obtain said modified camera-motion layer.

16. (Previously Presented) A method as in claim 1, wherein said step of editing said original

camera-motion layer comprises the step of:

modifying a size of said original camera-motion layer to obtain said modified camera-

motion layer.

17. (Previously Presented) A method as in claim 1, wherein said step of editing said original

camera-motion layer comprises the step of:

editing camera motion parameters of said original camera-motion layer to obtain modified

camera motion parameters.

18. (Original) A method as in claim 17, wherein said step of editing camera motion

parameters comprises the step of:

adjusting at least one of said camera motion parameters to obtain said modified camera

motion parameters.

19. (Original) A method as in claim 17, wherein said step of editing camera motion

parameters comprises the step of:

replacing said camera motion parameters with analytically-derived camera motion

parameters to obtain said modified camera motion parameters.

20. (Original) A method as in claim 17, wherein said step of editing camera motion

parameters comprises the step of:

replacing said camera motion parameters with camera motion parameters from another video

sequence to obtain said modified camera motion parameters.

21. (Previously Presented) A method as in claim 1, wherein said decomposed original video

sequence contains one or more fixed-frame layers, the method further comprising the step of:

editing at least one of said original fixed-frame layers to obtain at least one modified fixed-

frame layer.

22. (Original) A method as in claim 21, wherein said step of editing said original fixed-

frame layers comprises the steps of:

converting one of said original fixed-frame layers to an original image;

editing said original image to obtain a modified image; and

converting said modified image to one of said modified fixed-frame layers.

23. (Original) A method as in claim 22, wherein said step of editing said original fixed-

frame layers further comprises the steps of:

rectifying said original image prior to editing said original image; and

7

rectifying said modified image prior to converting said modified image.

24.   (Original) A method as in claim 21, wherein said step of editing said original fixed-frame layers comprises the step of:

adding camera motion parameters to at least one of said original fixed-frame layers.

25.   (Original) A computer comprising software to perform the method of claim 1.

26.   (Previously Presented) A computer-readable medium comprising software for the computer to perform the method of claim 1.

27.   (Previously Presented) An apparatus for editing an original video sequence to produce a modified original video sequence, comprising:

means for decomposing said original video sequence to obtain a decomposed original video sequence, the decomposed original video sequence including:

an original camera-motion layer, said camera-motion layer being a layer comprised of a composite representation of background data from a plurality of frames in the original video sequence, and

zero or more original fixed-frame layers, each fixed-frame layer being a layer comprised of independent representations of foreground data from a plurality of frames in the original video sequence;

means for editing said original camera-motion layer to obtain a modified camera-motion layer; and

means for recomposing said modified original camera-motion layer and said original fixed-frame layers to produce a modified original video sequence, such that each frame of said original video sequence is modified by editing said original camera-motion layer, without editing any frame of said original video sequence,

wherein said modified camera-motion layer corresponds to an original camera-motion layer containing at least one substantially non-stationary component.

28. (Original) An apparatus as in claim 27, further comprising:

means for editing at least one of said original fixed-frame layers to obtain modified fixed-frame layers.

29. (Previously Presented) An apparatus for editing an original video sequence, comprising:

an object-based video encoder to decompose said original video sequence into a decomposed original video sequence, said decomposed original video sequence comprising an original camera-motion layer, said camera-motion layer being a layer comprised of a composite representation of background data from a plurality of frames in the original video sequence and having an appearance of moving along with the camera, and zero or more original fixed-frame layers, each fixed-frame layer being a layer comprised of independent representations of foreground data from a plurality of frames in the original video sequence;

9

a video editor to edit said original camera-motion layer to obtain a decomposed modified video sequence, wherein said original camera-motion layer edited by said video editor contains at least one substantially non-stationary component; and

an object-based video compositor to compose said decomposed modified video sequence to obtain a composite modified video sequence, wherein each frame of said composite modified video sequence is modified by editing said original camera-motion layer, without editing any frame of said original video sequence.

30. (Currently Amended) A method for editing a decomposed original video sequence, said decomposed original video sequence comprising an original camera-motion layer, said camera-motion layer being a layer comprised of a composite representation of background data from a plurality of frames in the original video sequence and having an appearance of moving along with the camera, and zero or more original fixed-frame layers decomposed from an original video sequence, [[,]] each fixed-frame layer being a layer comprised of independent representations of foreground data from a plurality of frames in the original video sequence, the method comprising:

editing said original camera-motion layer to obtain a modified camera-motion layer such that each frame of a composite modified video sequence composed from said modified camera-motion layer and said original fixed-frame layers is modified by editing said original camera motion layer, without editing any frame of said original video sequence, said editing comprising editing at least one camera motion parameter of one of said original camera-motion layer to obtain a set of modified camera motion parameters, said camera motion parameters dictating camera movement with respect to the camera-motion layer.

10

31. (Previously Presented) The method of Claim 30, further comprising:

composing said composite modified video sequence from said modified camera-motion

layers and said original fixed-frame layers, including reprojecting a relevant part of said modified

camera-motion layers according to said modified camera motion parameters.

32. (Previously Presented) The method of Claim 30, wherein said camera motion parameters

are to specify a coordinate transformation between an image plane of at least one camera-motion

layer and an image plane of at least one video frame.

33. (Previously Presented) The method of Claim 30, wherein said camera movement

includes at least one type of movement selected from the group consisting of: panning, zooming,

tilting, and rolling.